

XXXIV.—*Remarks on Neomorphus pucherani and its Allies.*

By G. N. LAWRENCE.

I HAVE been much interested in the examination of two specimens, male and female, of a Cuckoo sent me for determination by Prof. James Orton: they were obtained in the Upper Amazonian region, near Pebas, by Mr. J. Hauxwell.

I found them to be of the rare species *Neomorphus pucherani* (*Cultrides pucherani*, Deville), specimens of which few ornithologists appear to have had the opportunity of examining; for I can find no record of any having been procured since the description of the types, figures of which are given in the Zoology of Castelnau's Voyage.

Mr. Sclater (P. Z. S. 1864, p. 249) has expressed a doubt of the specific value of this species. Having under examination a specimen of *N. rufipennis*, from Demerara, he is inclined to consider it identical with *N. pucherani*; he says, "At least I have very little doubt that the species is the same, although I can say but little in praise of the figures of *Cultrides pucherani* given in the 'Zoology of Castelnau's Voyage.' I may observe, however, that M. O. Des Murs's supposition there expressed, that this species is the young of *Neomorphus geoffroyi*, appears to have very little foundation."

Subsequently Mr. Sclater (P. Z. S. 1866, p. 59) has described a new species of *Neomorphus*, viz. *N. salvini*, and again gives diagnoses of *N. geoffroyi* and *N. rufipennis*, and, under the latter, remarks "I am still uncertain as to whether the *Cultrides pucherani* of Deville, figured in 'Castelnau's Voyage,' belongs to this species or not. If different it will form a second species of the same section"*.

M. O. Des Murs (Castelnau's Voyage, p. 18) gives as his opinion, that *N. pucherani* is one of the stages of plumage of

* [It is quite true that in 1866 I questioned the specific validity of *Neomorphus pucherani*. But in 1868 I had an opportunity of examining the typical specimens in the Jardin des Plantes, in company with Mr. Salvin, and saw at a glance that there could be no doubt of its being an excellent species. Moreover, last year Mr. Hauxwell sent a pair of these birds to this country also; and one of these is now in my collection, and the other in that of Salvin and Godman.—P. L. S.]

N. geoffroyi, Temm., which he considers also to be an immature bird, and furthermore he decides that *N. rufipennis*, Gray, is no other than *N. geoffroyi* in mature plumage, thus reducing the three so-called species to one. He gives his reasons at great length to sustain these opinions; but they seem to me to be mainly conjectural, as he assumes that the very different markings on the throat-feathers are in a state of transition, and would finally become as they exist in *N. rufipennis*.

M. Des Murs further remarks that it is evident that M. Deville was ignorant of the existence, or had forgotten Mr. Gray's description of *Cultrides rufipennis*, and that, if he had compared one with the other, he would have hesitated to establish his species.

M. Des Murs says in conclusion, that he has no hesitation in considering the two species the same, because his opinion is corroborated by Prince Charles Bonaparte in the 'Conspectus Volucrum Zygodactylorum,' who only made a single species of *C. rufipennis* and *C. pucherani*.

It is thus seen that the specific validity of *N. pucherani* has been questioned by several distinguished ornithologists; it is recognized, however, as a good species by Messrs. Cabanis and Heine (Mus. Hein. iv. p. 92) and by G. R. Gray (Hand-list, vol. ii. p. 212).

Having been able to examine and make comparisons of specimens of the four species of this genus, I hope to make it evident that there are four well-marked and distinct species.

The two specimens under examination are marked as male and female, and are well represented in plates 6 and 7 of the 'Zoology of Castelnau's Voyage,' taken from the types of *Cultrides pucherani*. Although the figures show some slight differences of coloration from the specimens, I think no one would hesitate a moment in deciding that they are alike.

Mr. Selater's reason for supposing these figures of *N. pucherani* inaccurate arose no doubt from the fact that he considered them as probably representing *N. rufipennis*.

Prof. Orton's specimen marked "male" corresponds well with the figure on plate 7, which is stated to be immature

("jeune âge"); in this figure the blue-black colour extends quite down on the hind neck, whereas in the specimen it is restricted to the occiput. There is also in the specimen a blue-black mark under the eye; this is absent in plate 7. These are probably errors in colouring, as the black mark under the eye is shown in plate 6, in which the black also exists on the hind neck, but it does not extend so far down as in plate 7. Both of Prof. Orton's specimens have the black under the eye, and the lower edge is just on a line with that of the same colour on the occiput. In plate 6 the black on the hind neck extends further down than on a line with the same colour under the eye.

The specimen of the female is apparently more mature, and agrees quite accurately with plate 6 ("adult male") in having the narrow black edgings on the feathers of the lower part of the throat, and in the central tail-feathers being of a lustrous reddish purple; the difference of the extension of the black colouring on the hind neck I do not consider of much account.

As supposed by M. Deville, the black edgings to the throat-feathers are probably evidence of maturity, they are clearly not sexual, as the female specimen is so marked; on the throat-feathers of the male there are slight indications of these dark margins. Neither of the specimens has the appearance of immaturity; yet one is quite likely older than the other. In general appearance and plumage both are exceedingly like the figures given in the 'Zoology of Castelnau's Voyage,' both having the deep-red carmine bills; this character does not seem one likely to exist in immature birds.

There are some differences between the specimens and the plates, in the grey, brown, and rufous colouring of the abdomen and sides; but I do not regard these as of much importance.

The following descriptions of the different species are taken from specimens which I have had under examination:—

1. *NEOMORPHUS GEOFFROYI* (Temm.).

Female. Bill pale yellow, dusky at the base; chin and upper part of throat grey, obscurely banded with dusky, lower part

of throat grey, tinged with rufous; the throat-feathers have their ends rounded, and each feather has a submarginal brownish black mark shaped like the letter U, which conforms to the shape of the feather; there is an inner mark somewhat similar in shape at the base of the feather; on the sides of the neck the dark colour is washed with greenish; the pectoral band is formed by three rows of feathers ending with blue-black, in addition to the two black marks on each feather, all the other throat-feathers having grey margins; breast and abdomen brownish ash, sides of the breast more brown, with darker brownish bars; the flank-feathers are dark rufous; the vent dark purplish brown; thighs light dull rufous obscurely barred with brownish; the feathers of the front and crown are grey washed with rufous, each having a black bar at the base and at the end, this dark colour increasing towards the hind head, where it covers the entire ends of the elongated feathers, forming the blue-black crest; the feathers on the sides of the head, on the occiput and upper hind neck, are marked much as on those of the front and crown; lower part of hind neck and wing-coverts bluish green; back, tertiaries, and upper tail-coverts light bronzy green; two central tail-feathers violet-purple ending with green, the next pair dark green on the inner webs, the outer webs like the central feathers, the other feathers are purplish black, more or less green on the outer webs; the outer primaries are blackish purple, with their outer margins lightly tinged with green, the margins of the inner primaries are more green; the innermost secondaries are entirely dark green; some of the wing-coverts are edged with grey; the tarsi and toes appear to have been dark plumbeous, claws pale yellowish. Wing $6\frac{3}{4}$ inches; tail $10\frac{1}{2}$; bill from front $1\frac{5}{8}$, from gape $2\frac{1}{4}$, high at base $1\frac{1}{6}$, wide at base $1\frac{1}{6}$, wide at nostrils $\frac{1}{2}$; tarsus $2\frac{1}{4}$.

Hab. "Rio Jazoaripe, Province of Bahia, Brasil."

Mus. Amer. of Nat. Hist. Central Park, New York; from the Maximilian Collection.

This example is apparently adult, and agrees well with Temminck's plate (Pl. Col. 7).

— 2. *NEOMORPHUS SALVINI*, Scl. P. Z. S. 1866, p. 59, pl. 5.

In the museum of the Acad. of Nat. Sciences, Philadelphia, I found a fine specimen of this recently described species. It came in the Rivoli collection, and had on the original label of *Coccyzus geoffroyi*, Temm.; it was relabelled by Mr. Cassin *Neomorphus geoffroyi*. On first seeing it I was struck with its resemblance to the plate of Mr. Selater's *N. salvini*, as I remembered it, and on comparison with the plate found it to agree exactly with it. My first impression was that Mr. Selater had committed an error, supposing the specimen to be correctly labelled; but on examining the bottom of the stand, I found in fine writing, "Mexique." From this I drew the conclusion that it was not *N. geoffroyi*, which has only been found in Brazil, but in reality Mr. Selater's *N. salvini*. In the catalogue printed at the time the Rivoli collection was offered for sale, this specimen is given as from Brazil.

Thus this fine species escaped the scrutiny of the French naturalists as well as that of Mr. Cassin.

"Mexique" has so wide a significance in French specimens that, if noticed by Mr. Cassin, he probably did not heed it; but in this case it is undoubtedly correct.

The bill is light horn-colour, clouded in the middle and paler at the edges; front and crown, as far as on a line with the posterior angle of the eye, light rufous, beyond which the crest-feathers are bluish black, with pale rufous edges; bare space around the eye blackish in the dried specimen; the throat-feathers are pale ochreous, with lighter or greyish margins; on the upper part of the breast there is a narrow band of bluish black; breast and upper part of abdomen ochreous grey, lower part of abdomen and sides bright rufous, under tail-coverts dark brown; hind neck bronzy green, upper part of back and wing-coverts light bronzy green; lower part of back and upper tail-coverts brownish rufous; the primary quills are dark green on the outer webs, blackish on the inner, the secondaries are of a lighter green on the outer webs, the tertiaries brownish rufous like the back; central tail-feathers dark green, with their edges largely reddish purple, the outer tail-feathers changeable purple and green. Wing 7 inches;

tail $11\frac{3}{8}$; tarsus $2\frac{5}{8}$; bill from front $1\frac{1}{16}$, from gape $2\frac{1}{8}$, high at base $\frac{3}{4}$, wide at base $\frac{3}{4}$, at nostril $\frac{9}{16}$.

Hab. Central America.

Mus. Acad. of Nat. Sciences, Philadelphia.

As stated by Mr. Selater, this species is nearly allied to *N. geoffroyi*; it is, however, quite distinct, differing in the rufous front and in not having the black marks on the throat-feathers; these last in shape are nearly even at the end, those of *N. geoffroyi* being strongly rounded; in each of the species the shape of the throat-feathers is different, and it is a strong distinguishing character: the bill is not shorter than in the specimen of *N. geoffroyi*; but it is higher, as stated by Mr. Selater, and also wider: the purple and green colours of the tail, I think, vary with age, being more purple in the adult.

3. NEOMORPHUS RUFIPENNIS (G. R. Gray), P. Z. S. 1849, p. 63, pl. 10.

Bill black for three quarters its length, the terminal quarter whitish horn-colour clouded in the middle; upper part of the throat greyish, narrowly edged with dusky blue; front, crown, crest, a space under the eye, entire neck and upper part of the breast of a fine deep blackish blue; this blue colour extends somewhat on the upper part of the back; the throat and neck-feathers in front are obtusely lanceolate in shape; the bases of the blue throat-feathers are grey; bare space around the eye whitish; lower part of breast, abdomen, and thighs of a fine dark grey; under tail-coverts dark brown; middle tail-feathers fine purplish red, the others dark green, except the outer pair, which are deep violet-purple, as are the underparts of all the tail-feathers; back and upper tail-coverts dark green; the primaries are blackish violet-blue, the secondaries have their outer webs for two thirds their width bright reddish cinnamon, the remainder of webs next the shaft and the inner webs violet-blue. Wing $6\frac{1}{2}$ inches; tail 11; tarsus $2\frac{3}{4}$; bill from front $1\frac{9}{16}$, from gape $2\frac{1}{16}$, high at base $\frac{1}{6}$, wide at base $\frac{1}{6}$, wide at nostrils $\frac{1}{6}$.

Hab. No locality given*.

* [The correct patria of this species is undoubtedly Guiana. (cf. P. Z. S. 1864, p. 249.—P. L. S.)]

Mus. Acad. of Nat. Sciences, Philadelphia. Labelled by Mr. Cassin as this species. "Bought from Bell, 1864."

This specimen corresponds closely with Mr. Gray's plate, differing only in the central tail-feathers being purple instead of green.

4. NEOMORPHUS PUCHERANI (Deville), *Rev. Zool.* p. 51; *Cast. Voy.* pls. 6, 7.

Female. Bill deep carmine, the ends of both mandibles and the cutting-edges pale yellow. In a note attached to the specimen Mr. Hauxwell says, "Iris brown, point of beak green, the rest and skin around the eyes red, skin behind the eye light blue." The bill still retains its deep carmine colour; but the bare space behind the eye is blackish, the blue colour having almost entirely faded out.

Front dark brown, top of head, crest-feathers, occiput, and a mark under the eye from near the front angle deep blackish blue; chin and upper parts of throat light ash, with an ochreous tinge, feathers of the lower part of the throat dark ash, with paler margins, the extreme end of each marked with a very narrow but distinct black line; the throat-feathers are slightly rounded at their ends; there is a well-defined pectoral band of blue-black, formed by two rows of feathers having their ends of that colour, the concealed portion of these feathers is much paler than in those immediately above; breast and abdomen dark ash washed with ochreous, lower part of abdomen, flanks, and crissum dark purple-brown; the feathers of the thighs are pale cinereous, with their ends light brown; hind neck, back, and upper wing-coverts greenish olive; lower part of back, rump, and upper tail-coverts olivaceous brown; the central tail-feathers are of a fine reddish purple, in certain lights changing partly to green, the next pair green, with the edges of the outer webs purple, the third pair dark green, the fourth and fifth pairs dark purple, with a wash of green; under surface of the tail blackish purple; the primaries are bluish purple; the larger wing-coverts and the entire outer webs of the secondaries are of a brownish maroon-colour, the inner webs are dark purple, except the ends, which are maroon-colour; tarsi and toes dark fleshy brown, nails pale brownish.

The male, which is probably younger, differs from the female in the black edges of the throat-feathers not being clearly defined, in the smaller wing-coverts and upper back being more green, the lower back and upper tail-coverts bronzy green, and the tail-feathers showing less of the changeable purple colour. In all other respects they are precisely alike.

Length (skin) 20 inches; wing $6\frac{1}{4}$; tail 10; bill from front $1\frac{5}{8}$, from gape $2\frac{1}{16}$, high at base $\frac{7}{8}$, wide at base $\frac{1}{16}$, wide at nostrils $\frac{9}{16}$; tarsus $2\frac{1}{2}$.

Hab. Pebas, Peru, Upper Amazons.

Mus. Vassar College, Ploughkeepsie, New York.

Mr. Hauxwell considered this species to be undescribed, and wrote to Prof. Orton as follows:—"The first of the kind that I have been able to obtain, although I have been trying and requesting the Indians to bring me some, and have offered them a good price. The Oregones call them '*Sataicu*;' some call them *Huangana pisco* or Hog-bird, they make a noise similar to the hog when he is excited." Prof. Orton suggests that, "Mr. Hauxwell refers here to the Peccary."

They would seem to be very rare or difficult to procure. Deville says that on the Yucayali it is called "*Vanvana pischo*," that they are in pairs in the large woods, that it is very wild, and its flight very swift. Yaguas Indian name "*Monasitan*."

There is no need of comparing this species with any except *N. rufipennis*; and to that there is little resemblance except in the reddish brown colour on the wings; this colour in *N. rufipennis* is brighter, and occupies but two thirds of the outer web of each of the secondaries, instead of the entire outer web as in *N. pucherani*; the throat-feathers of the two species are entirely unlike in shape; and in the coloration of the neck they are very dissimilar; in the colours of the bill they are notably unlike; and the bills also differ in form, that of *N. pucherani* being at the base seven eighths of an inch in height, whereas in *N. rufipennis* it is but five eighths; yet in length the bills do not vary materially.

The most salient points of difference in the several species may be stated as follows:—

1. *N. geoffroyi*. Bill pale yellow, dusky at base; front

grey tinged with rufous and marked with black bars; throat-feathers with rounded ends, and having U-shaped marks on each feather; tarsus $2\frac{1}{4}$ inches.

2. *N. salvini*. Bill light horn-colour clouded in the middle; front pale rufous; throat-feathers with their ends nearly even, of a pale ochreous, with lighter-coloured margin; tarsus $2\frac{5}{8}$ inches.

3. *N. rufipennis*. Bill black for three fourths its length, the end whitish horn-colour; front blackish blue, of the same colour as the crown and crest; throat-feathers lanceolate in shape and of a blackish blue colour; there is no distinct pectoral band; tarsus $2\frac{3}{4}$ inches.

4. *N. pucherani*. Bill deep carmine, yellowish at tip, much curved and very high; front dark brown; throat-feathers dark ash, their ends are slightly rounded, and the lower ones are margined with black; tarsus $2\frac{1}{2}$ inches.

XXXV.—*Note on the Fulica alba of White.*

By OSBERT SALVIN, M.A., &c.

(Plate X.)

IN a former number of 'The Ibis' for the current year (*anteà*, p. 45), I referred to a Plate which I was having prepared from a coloured drawing, sent to me by Herr von Pelzeln, of the typical specimen of the *Fulica alba* of White. This plate (Plate X.) is now given herewith.

On comparing the coloured drawing with the specimens of *Notornis mantelli* in the British Museum, it appeared evident that the bird in the Imperial Cabinet at Vienna must belong to *Notornis*. The short wings and the short toes, as well as the outline of the beak, indicated clearly a far greater generic affinity with *Notornis* than with *Porphyrio*.

I therefore (depending, of course, upon the accuracy of the drawing sent me, which has been placed on stone by Mr. Keulemans on a slightly larger scale than the original sketch) have little hesitation in adding this species to the genus *Notornis*, thereby confirming the position pointed out for it by Herr von Pelzeln (*anteà*, p. 44).